Semi-Annual INDEX of Refining Technology Articles

JANUARY—JUNE, 1945

Subject Index

Subject	Article	Issue	Page
Additives			
	Chlorinated Paraffins (KU)	May 2	R-363
	Engine Oil Foaming	May 2	R-379
	Petroleum Sulfonates (KU)	Apr. 4	R-292
	Survey of Past and Present Trends in Lubricating Oil Additives	Jan. 3	R- 34
Aircraft			
	Aeronautical Gas Turbines (KU)	Jan. 3	R- 48
	Postwar Aircraft (KU)	Apr. 4	R-288
	Postwar Private Planes (KU)	June 6	R-454
	Rocket Planes (KU)	Apr. 4	R-288
Alcohol as Fuel			
	Power Alcohol (KU)	Mar. 7	R-210
	Research, or Medicine Show, on an Automotive Development (Ed)	Apr. 4	R-320
Alcohol-Water Injection			
	Alcohol Tested as Injection Fluid for Gasoline Engines (Ed)	Feb. 7	R-160
	Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines	Feb. 7	R- 88
	Discussion on Alcohol-Water Injection	Apr. 4	R-249
	Obstacles Seen to a Two-Fuel System for General Use on Automobiles	Apr. 4	R-249
	Research, or Medicine Show, on an Automotive Development (Ed)	Apr. 4	R-320
	Water Injection Alone Suppressed Detonation but Excessive Engine Rusting Was Found	Apr. 4	R-250
Alkylation			
	Alkylation—Backbone of Aviation Gasoline	June 6	R-407
	Mechanical Operation of HF Alkylation Units	May 2	R-326
Ammonia (see Synthetic Ammonia)			
Automobiles (see Postwar Automobile)			
Automotive Laboratories			
	New Devices Save Time and Labor in Setting Up Engine Test Stands (Sun Oil Co., Marcus Hook, Pa.)	Apr. 4	R-257
Aviation Gasoline			
	Alkylation—Backbone of Aviation Gasoline	June 6	R-407
	Chemical Utilization of Natural Gas	June 6	R-430
	Evaporation Losses of Aviation Gasoline in Standing Storage:		
	Part 1—Tests with Blended Aviation Gasoline	Apr. 4	R-252
	Part 2—Tests with Blending Stocks	May 2	R-373
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	New Plant Facilities Boost Aviation Gasoline Production Fifteen-Fold	Mar. 7	R-174
Butadiene			
	Condensation of Ethylene with Acetylene	Mar. 7	R-224
	Cooling Water and Effluent Treatment in Butadiene Manufacturing	Apr. 4	R-273
	Kinetics of the Process of Thermal Polymerization of Butadiene	June 6	R-466
	New Chemical being Produced in Kobuta Butadiene Plant	Mar. 7	R-206
	Petroleum Butadiene (KU)	Jan. 3	R- 48
	Polymerization of Mixtures of 1,3-Butadiene with 2-Butene and with Pentane by Sodium	Feb. 7	R-133
	Postwar Butadiene Uses (KU)	June 6	R-454
Carbon Black			
	Carbon Black (KU)	May 2	R-363
	Chemical Utilization of Natural Gas	June 6	R-430
Carbon Disulfide			
	Carbon Disulfide (KU)	Feb. 7	R-132
Catalytic Cracking			
	"Cat Cracker" Turn-Around	Apr. 4	R-243
	Converting Thermal Plants to Catalytic Operation (Ed)	June 6	R-496
	Design and Operating Features of Houdry Units	May 2	R-333
	Four Neighboring Refiners Install Joint Catalytic Cracking Unit	June 6	R-410
	Improved Fluid Process for Catalytic Cracking, The	Mar. 7	R-194
	Quality of Distillate Fuel Oils from Houdry and TCC Operations	Mar. 7	R-165
	TCC Catalytic Cracking Process for Motor Gasoline Production, The	June 6	R-441
	24-Tray Water Wash Tower Removes Ammonia and Hydrogen Cyanide from "Cat Cracker" Products	June 6	R-406
	2600 b/d Fluid Catalytic Cracking Unit Proves Successful on Initial 65-Day Run	Feb. 7	R- 83
	Use of Cracked Gas Oils as Burner Fuels Being Tested	Feb. 7	R-124
Chemicals			
	Hydrocarbon Reference Samples Are Listed	June 6	R-486
	New Chemicals being Produced in Kobuta Butadiene Plant	Mar. 7	R-206
	Use of Chemicals by the Petroleum Industry, The	Jan. 3	R- 76
Chemicals from Petroleum (see Petrochemicals)			
Chlorinated Paraffins			
	Chlorinated Paraffins (KU)	May 2	R-363
Control			
	Automatic Control Engineering (BR)	Jan. 3	R- 43
	Program for Loss Control in Manufacturing and Handling Operations	June 6	R-403
Cracking (see Catalytic Cracking)			
Cycling Operations			
	Flow Lines to Each Well Feature Operations of New Cycling Plant	May 2	Cover
	Greater Light-Ends Recovery Is Design Trend in Natural Gasoline Plant Construction	May 2	R-323
	Paloma Cycling Plant Repressures 23 Wells at 10,000-11,000 Feet	May 2	R-337
Dehydration			
	Dehydration of Furnace Oil with Activated Alumina	Jan. 3	R- 63
Dehydrogenation			
	Production of Isoprene by Catalytic Dehydrogenation, The	Apr. 4	R-263
Design (see Plant Design)			
Desulfurization			
	Catalytic Desulfurization Improves Lead Susceptibility of "Sour" Distillates	Apr. 4	R-309
Diesel Engines			
	Dual-Fuel Diesel Engines Use Either Gas or Oil	May 2	R-396
	New Technique for Frame Combustion Photography (Ed)	June 6	R-496
	Railway Diesels (KU)	Feb. 7	R-128
Distillation (see Fractionation)			
Economics			
	Costs of Oil from Coal and Shale	Mar. 7	R-205
	Hydrocarbons for Petrochemicals	Apr. 4	Cover
	Wealth of Hydrocarbons for Manufacturing Petrochemicals Are Available—At a Price	Apr. 4	R-246

(CODE: BR—book review; Ed—editorial; IL—"Industrial Lubrication"; KU—"Keeping Up With the News")

Semi-Annual INDEX of Refining Technology Articles

JANUARY—JUNE, 1945

Subject Index

Subject	Article	Issue	Page
Additives			
	Chlorinated Paraffins (KU)	May 2	R-363
	Engine Oil Foaming	May 2	R-379
	Petroleum Sulfonates (KU)	Apr. 4	R-292
	Survey of Past and Present Trends in Lubricating Oil Additives	Jan. 3	R- 34
Aircraft			
	Aeronautical Gas Turbines (KU)	Jan. 3	R- 48
	Postwar Aircraft (KU)	Apr. 4	R-288
	Postwar Private Planes (KU)	June 6	R-454
	Rocket Planes (KU)	Apr. 4	R-288
Alcohol as Fuel			
	Power Alcohol (KU)	Mar. 7	R-210
	Research, or Medicine Show, on an Automotive Development (Ed)	Apr. 4	R-320
Alcohol-Water Injection			
	Alcohol Tested as Injection Fluid for Gasoline Engines (Ed)	Feb. 7	R-160
	Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines	Feb. 7	R- 88
	Discussion on Alcohol-Water Injection	Apr. 4	R-249
	Obstacles Seen to a Two-Fuel System for General Use on Automobiles	Apr. 4	R-249
	Research, or Medicine Show, on an Automotive Development (Ed)	Apr. 4	R-320
	Water Injection Alone Suppressed Detonation but Excessive Engine Rusting Was Found	Apr. 4	R-250
Alkylation			
	Alkylation—Backbone of Aviation Gasoline	June 6	R-407
	Mechanical Operation of HF Alkylation Units	May 2	R-326
Ammonia (see Synthetic Ammonia)			
Automobiles (see Postwar Automobile)			
Automotive Laboratories			
	New Devices Save Time and Labor in Setting Up Engine Test Stands (Sun Oil Co., Marcus Hook, Pa.)	Apr. 4	R-257
Aviation Gasoline			
	Alkylation—Backbone of Aviation Gasoline	June 6	R-407
	Chemical Utilization of Natural Gas	June 6	R-430
	Evaporation Losses of Aviation Gasoline in Standing Storage:		
	Part 1—Tests with Blended Aviation Gasoline	Apr. 4	R-252
	Part 2—Tests with Blending Stocks	May 2	R-373
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	New Plant Facilities Boost Aviation Gasoline Production Fifteen-Fold	Mar. 7	R-174
Butadiene			
	Condensation of Ethylene with Acetylene	Mar. 7	R-224
	Cooling Water and Effluent Treatment in Butadiene Manufacturing	Apr. 4	R-273
	Kinetics of the Process of Thermal Polymerization of Butadiene	June 6	R-466
	New Chemical being Produced in Kobuta Butadiene Plant	Mar. 7	R-206
	Petroleum Butadiene (KU)	Jan. 3	R- 48
	Polymerization of Mixtures of 1,3-Butadiene with 2-Butene and with Pentane by Sodium	Feb. 7	R-133
	Postwar Butadiene Uses (KU)	June 6	R-454
Carbon Black			
	Carbon Black (KU)	May 2	R-363
	Chemical Utilization of Natural Gas	June 6	R-430
Carbon Disulfide			
	Carbon Disulfide (KU)	Feb. 7	R-132
Catalytic Cracking			
	"Cat Cracker" Turn-Around	Apr. 4	R-243
	Converting Thermal Plants to Catalytic Operation (Ed)	June 6	R-496
	Design and Operating Features of Houdry Units	May 2	R-333
	Four Neighboring Refiners Install Joint Catalytic Cracking Unit	June 6	R-410
	Improved Fluid Process for Catalytic Cracking, The	Mar. 7	R-194
	Quality of Distillate Fuel Oils from Houdry and TCC Operations	Mar. 7	R-165
	TCC Catalytic Cracking Process for Motor Gasoline Production, The	June 6	R-441
	24-Tray Water Wash Tower Removes Ammonia and Hydrogen Cyanide from "Cat Cracker" Products	June 6	R-406
	2600 b/d Fluid Catalytic Cracking Unit Proves Successful on Initial 65-Day Run	Feb. 7	R- 83
	Use of Cracked Gas Oils as Burner Fuels Being Tested	Feb. 7	R-124
Chemicals			
	Hydrocarbon Reference Samples Are Listed	June 6	R-486
	New Chemicals being Produced in Kobuta Butadiene Plant	Mar. 7	R-206
	Use of Chemicals by the Petroleum Industry, The	Jan. 3	R- 76
Chemicals from Petroleum (see Petrochemicals)			
Chlorinated Paraffins			
	Chlorinated Paraffins (KU)	May 2	R-363
Control			
	Automatic Control Engineering (BR)	Jan. 3	R- 43
	Program for Loss Control in Manufacturing and Handling Operations	June 6	R-403
Cracking (see Catalytic Cracking)			
Cycling Operations			
	Flow Lines to Each Well Feature Operations of New Cycling Plant	May 2	Cover
	Greater Light-Ends Recovery Is Design Trend in Natural Gasoline Plant Construction	May 2	R-323
	Paloma Cycling Plant Repressures 23 Wells at 10,000-11,000 Feet	May 2	R-337
Dehydration			
	Dehydration of Furnace Oil with Activated Alumina	Jan. 3	R- 63
Dehydrogenation			
	Production of Isoprene by Catalytic Dehydrogenation, The	Apr. 4	R-263
Design (see Plant Design)			
Desulfurization			
	Catalytic Desulfurization Improves Lead Susceptibility of "Sour" Distillates	Apr. 4	R-309
Diesel Engines			
	Dual-Fuel Diesel Engines Use Either Gas or Oil	May 2	R-396
	New Technique for Frame Combustion Photography (Ed)	June 6	R-496
	Railway Diesels (KU)	Feb. 7	R-128
Distillation (see Fractionation)			
Economics			
	Costs of Oil from Coal and Shale	Mar. 7	R-205
	Hydrocarbons for Petrochemicals	Apr. 4	Cover
	Wealth of Hydrocarbons for Manufacturing Petrochemicals Are Available—At a Price	Apr. 4	R-246

(CODE: BR—book review; Ed—editorial; IL—"Industrial Lubrication"; KU—"Keeping Up With the News")

Subject Index (Continued)

Subject	Article	Issue	Page
Engines (see also Diesel Engines and Postwar Engines)			
	Alcohol Tested as Iniection Fluid for Gasoline Engines (Ed)	Feb. 7	R-160
	Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines	Feb. 7	R- 88
	Discussion on Alcohol-Water Injection	Apr. 4	R-249
	Dual Fuel Diesel Engines Use Either Gas or Oil	May 2	R-396
	Obstacles Seen to a Two-Fuel System for General Use on Automobiles	Apr. 4	R-249
	Water Injection Alone Suppressed Detonation but Excessive Engine Rusting Was Found	Apr. 4	R-250
Engine Lubrication			
	Lubrication of Steam Engine Cylinders (IL)	May 2	R-329
	Lubrication of Steam Turbines (IL)	June 6	R-438
Equipment			
	Chemical Machinery (BR)	Jan. 3	R- 43
	Heat Transfer Equipment	Jan. 3	R- 16
Ethyl Chloride			
	Ethyl Chloride (KU)	June 6	R-456
Expansion Bends			
	Critical Materials Saved by Expansion U-Bends	Jan. 3	R- 15
Fireproofing			
	Analysis of Fireproofing Methods Used in Refinery Construction	Feb. 7	R- 86
Fischer-Tropsch Process			
	Chemical Utilization of Natural Gas	June 6	R-430
	Fischer-Tropsch Synthesis and the Petroleum Industry	Feb. 7	R- 97
	Synthine Defined (KU)	May 2	R-366
	Synthine Process (KU)	Feb. 7	R-128
	Synthine Production (KU)	Jan. 3	R- 48
Fluid Catalytic Cracking Process			
	"Cat Cracker" Turn-Around	Apr. 4	R-243
	Four Neighboring Refiners Install Joint Catalytic Cracking Unit	June 6	R-410
	Improved Fluid Process for Catalytic Cracking, The	Mar. 7	R-194
	2600 b/d Fluid Catalytic Cracking Unit Proves Successful on Initial 65-Day Run	Feb. 7	R- 83
Foreign Literature (translated from the Russian)			
	Condensation of Ethylene with Acetylene	Mar. 7	R-224
	Hydrocarbon Synthesis from Oxygenated Organic Compounds	Apr. 4	R-302
	Kinetics of the Process of Thermal Polymerization of Butadiene	June 6	R-466
	Polymerization of Mixtures of 1,3-Butadiene with 2-Butene and with Pentane by Sodium	Feb. 7	R-133
Formaldehyde			
	Formaldehyde (KU)	June 6	R-458
Fractionation			
	Multicomponent Fraction: A simplified Approach to Plate-to-Plate Calculations	Jan. 3	R- 53
	Pilot Unit Segregates Hydrocarbons by Groups for Calculating Data Used in Tower Design	Apr. 4	R-282
	Precise Fractionation in the Petroleum Industry	Mar. 7	R-169
Fuel Oil			
	Quality of Distillate Fuel Oils from Houdry and TCC Operations	Mar. 7	R-165
	Use of Cracked Gas Oils as Burner Fuels being Tested	Feb. 7	R-124
Fuels (see Postwar Fuels)			
Gasoline Motors (see Engines and Postwar Engines)			
Gas Turbines			
	Aeronautical Gas Turbines (KU)	Jan. 3	R- 48
	Jet Propulsion Fuels (KU)	May 2	R-364
Greases			
	Machine for Performance Tests of Antifriction Bearing Greases, A	Jan. 3	R- 25
	Torque-Viscosity Characteristics of Lubricating Greases	Feb. 7	R-150
Heat Exchangers			
	Heat Transfer Equipment	Jan. 3	R- 16
Houdry Catalytic Cracking Process			
	Design and Operating Features of Houdry Units	May 2	R-333
	Quality of Distillate Fuel Oils from Houdry and TCC Operations	Mar. 7	R-165
Hydrogen			
	Hydrogen (KU)	Apr. 4	R-292
Inspection			
	Inspection of Piping Systems	Jan. 3	R- 39
Instrumentation			
	Automatic Control Engineering (BR)	Jan. 3	R- 43
Isoprene			
	Production of Isoprene by Catalytic Dehydrogenation, The	Apr. 4	R-263
Laboratories (see Research Laboratories)			
Losses			
	Program for Loss Control in Manufacturing and Handling Operations	June 6	R-403
LPG (Liquefied Petroleum Gas)			
	Greater Light-Ends Recovery Is Design Trend in Natural Gasoline Plant Construction	May 2	R-323
	Increasing Propane Recovery in Existing Natural Gasoline Absorption Plants	May 2	R-389
	Liquefied Petroleum Gases (KU)	Apr. 4	R-290
	Progress of the LPG Industry During 1944	Feb. 7	R-108
	Propane and Ethane (KU)	Jan. 3	R- 44
	Wartime Trend of LP-Gas Industry	Mar. 7	R-226
Lubrication (see Engine Lubrication)			
Lubricants			
	Engine Oil Foaming	May 2	R-379
	Life Testing of Lubricating Oil	Jan. 3	R- 49
	Lubrication of Steam Engine Cylinders (IL)	May 2	R-329
	Lubrication of Steam Turbines (IL)	June 2	R-438
	Machine for Performance Tests of Antifriction Bearing Greases, A	Jan. 3	R- 25
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	Piston Lacquering—Its Causes and Cures	Feb. 7	R-115
	Survey of Past and Present Trends in Lubricating Oil Additives	Jan. 3	R- 34
	Synthetic Aviation and Motor Oils Seen as Future Developments	Feb. 7	R-105
	Torque-Viscosity Characteristics of Lubricating Greases	Feb. 7	R-150
Lubricating Oil Manufacture			
	8250 b/d Canadian Refinery Is Complete, Even to Modern Lube Oil Manufacture	June 6	R-417
	New Solvent Lubricating Oil Plant Designed for Varying Blends of Crudes	Jan. 3	R- 7
Maintenance			
	"Cat Cracker" Turn-Around	Apr. 4	R-243
	Mechanical Operation of HF Alkylation Units	May 2	R-326
	Superstructures Aid in Tower Maintenance	Mar. 7	Cover
Natural Gas			
	Chemical Utilization of Natural Gas	June 6	R-430
	Products Obtainable from Natural Gas Hydrocarbons	Mar. 7	R-204
	Science in Natural Gas	Jan. 3	R- 11
	Texas Natural Gas (KU)	Mar. 7	R-212

(CODE: BR—book review; Ed—editorial; IL—"Industrial Lubrication"; KU—"Keeping Up With the News")

Subject Index (Continued)

Subject / Article	Issue	Page
Natural Gasoline		
Greater Light-Ends Recovery Is Design Trend in Natural Gasoline Plant Construction	May 2	R-323
Increasing Propane Recovery in Existing Natural Gasoline Absorption Plants	May 2	R-389
New Processes		
Process Development Program	Mar. 7	R-217
Patents		
Patent Developments (KU)	Mar. 7	R-212
Survey of Past and Present Trends in Lubricating Oil Additives	Jan. 3	R- 34
Personnel		
Better Plant Performance is Goal of Refinery Technical Division	May 2	R-393
Petroleum Technologists in the Armed Forces	May 2	R-370
Petroleum Technologists in the Armed Forces	June 6	R-478
Technologists Have Important Role in Postwar Refining (Ed)	Apr. 4	R-320
War's End Will not Terminate Shortage of Scientific Man-Power for Oil Companies	May 2	R-367
Petrochemicals		
Aromatic Hydrocarbons (KU)	Mar. 7	R-210
Carbon Disulfide (KU)	Feb. 7	R-132
Chemical Utilization of Natural Gas	June 6	R-430
Ethyl Chloride (KU)	June 6	R-456
Hydrocarbons for Petrochemicals	Apr. 4	Cover
Hydrogen (KU)	Apr. 4	R-292
New Chemical Company (KU)	Feb. 7	R-128
Petroleum Chemicals (KU)	May 2	R-364
Petroleum Sulfonates (KU)	Apr. 4	R-292
Products Obtainable from Natural Gas Hydrocarbons	Mar. 7	R-204
Propane and Ethane (KU)	Jan. 3	R- 44
Science in Natural Gas	Jan. 3	R- 11
Synthetic Ammonia (KU)	Feb. 7	R-132
Synthetic Ammonia (KU)	May 2	R-366
Synthetic Organic Chemicals (KU)	Feb. 7	R-130
Wartime Trend of LP-Gas Industry	Mar. 7	R-226
Wealth of Hydrocarbons for Manufacturing Petrochemicals Are Available—at a Price	Apr. 4	R-246
Physical Properties of Hydrocarbons		
New Volume Correction Factors Issued for C_4 Hydrocarbons	Jan. 3	R- 31
Liquid Densities of Volatile Hydrocarbon Mixtures	Mar. 7	R-213
Data on Thermal Expansion of Liquid Hydrocarbons Helpful in Field Studies	Apr. 4	R-293
Hydrocarbon Reference Samples Are Listed	June 6	R-486
Pilot Plants		
Pilot Unit Segregates Hydrocarbons by Groups for Calculating Data Used in Tower Design	Apr. 4	R-282
Process Development Program	Mar. 7	R-217
Plant Operation		
Better Plant Performance is Goal of Refinery Technical Division	May 2	R-393
Converting Thermal Plants to Catalytic Operation (Ed)	June 6	R-496
Four Neighboring Refiners Install Joint Catalytic Cracking Unit	June 6	R-410
Dehydration of Furnace Oil with Activated Alumina	Jan. 3	R- 63
Design and Operating Features of Houdry Units	May 2	R-333
Inspection of Piping Systems	Jan. 3	R- 39
Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-169
Program for Loss Control in Manufacturing and Handling Operations	June 6	R-403
24 Tray Water Wash Tower Removes Ammonia and Hydrogen Cyanide from "Cat Cracker" Products	June 6	R-403
Plants Describes		
British American Oil Co., Ltd., Toronto, Ontario. (8250 b/d Canadian Refinery Is Complete, Even to Modern Lube Oil Manufacture)	June 6	R-417
Champlin Refining Co., Enid, Okla. (New Solvent Lubricating Oil Plant Designed for Varying Blends of Crudes)	Jan. 3	R- 7
Cities Service Refining Co., Lake Charles, La. ("Cat Cracker" Turn-Around)	Apr. 4	R-243
Frontier Refining Co., Cheyenne, Wyo. (2600 b/d Fluid Catalytic Cracking Unit Proves Successful on Initial 65-Day Run)	Feb. 7	R- 83
Humble Oil & Refining Co., Baytown, Texas. (Baytown—Processes 200,000 Bbls. of Crude a Day)	Mar. 7	R-177
Koppers United Co., Kobuta, Pa. (Cooling Water and Effluent Treatment in Butadiene Manufacturing)	Apr. 4	R-273
Paloma Cycling Plant, Calif. (Paloma Cycling Plant Repressures 23 Wells at 10,000-11,000 Feet)	May 2	R-337
Pennzoil Oil Co., Oil City, Pa. (Four Neighboring Refiners Install Joint Catalytic Cracking Unit)	June 6	R-410
Tide Water Associated Oil Co., Avon, Calif. (New Plant Facilities Boost Aviation Gasoline Production Fifteen-Fold)	Mar. 7	R-174
Plant Design		
Analysis of Fireproofing Methods Used in Refinery Construction	Feb. 7	R- 86
Design and Operating Features of Houdry Units	May 2	R-333
Design Changes in Wartime Refineries Save Critical Materials	Jan. 3	R- 64
Critical Materials Saved by Expansion U-Bends	Jan. 3	R- 15
Greater Light-Ends Recovery is Design Trend in Natural Gasoline Plant Construction	May 2	R-323
Increasing Propane Recovery in Existing Natural Gasoline Absorption Plants	May 2	R-389
Multicomponent Fractionation: A Simplified Approach to Plate-to-Plate Calculations	Jan. 3	R- 53
Paloma Cycling Plant Repressures 23 Wells at 10,000-11,000 Feet	May 2	R-337
Superstructures Aid in Tower Maintenance	Mar. 7	Cover
263-Ton Hortonsphere Built on Timber Bed, Moved 800 Ft. Intact	June 6	R-487
Vibration in Compressor Plant Piping	Feb. 7	R-138
Wartime Design Features for Normal Practice (Ed.)	Mar. 7	R-240
Plastics		
Plastics, Scientific and Technological (BR)	May 2	R-384
Styraloy (KU)	June 6	R-454
Polymerization		
Kinetics of the Process of Thermal Polymerization of Butadiene	June 6	R-466
Polymerization of Mixtures of 1,3 Butadiene with 2-Butene and with Pentane by Sodium	Feb. 7	R-133
Postwar Automobiles		
Automobile Developments (KU)	Feb. 7	R-130
Automobile News (KU)	Apr. 4	R-290
Automobile News (KU)	May 2	R-364

(CODE: BR—book review; Ed—editorial; IL—"Industrial Lubrication"; KU—"Keeping Up With the News")

Subject Index (Continued)

Subject	Article	Issue	Page
	Gasless Automobile (KU)	Mar. 7	R-209
	Postwar Automobiles (KU)	Jan. 3	R- 46
Postwar Engines			
	Possibilities of Gasoline Engine Development	May 2	R-346
	Postwar Internal Combustion Engines and Their Fuels	Jan. 3	R- 66
Postwar Fuels			
	Jet Propulsion Fuels (KU)	May 2	R-364
	Postwar Fuels for Prewar Cars (Ed.)	May 2	R-400
	Postwar Internal Combustion Engines and Their Fuels	Jan. 3	R- 66
	Synthetic Aviation and Motor Oils Seen as Future Developments	Feb. 7	R-105
Rubber (see Synthetic Rubber)			
Research			
	"Foolish" Research Has Paid Big Dividends (Ed.)	Feb. 7	R-160
	Guidance on the Research Problem (Ed.)	Mar. 7	R-240
	Industrial Research Should Be the Keystone in Our Postwar Preparedness Program (Ed.)	Jan. 3	R- 80
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	Navy Seeks Answers to Puzzling Problems	Mar. 7	R-223
	Nonlaboratory Chemistry (KU)	June 6	R-458
Research Laboratories			
	Phillips Petroleum Co., Phillips, Texas. (Cutting the Lag Between Research and Commercial Refining)	Mar. 7	R-187
	Sun Oil Co., Marcus Hook, Pa. (New Devices Save Time and Labor in Setting Up Engine Test Stands)	Apr. 4	R-257
Rubber (See Synthetic Rubber)			
Safety			
	National Fire Codes for Flammable Liquids, Gases, Chemicals and Explosives, 1945. (BR)	May 2	R-384
	Preventing Explosive Atmospheres by Dilution with Inert Gases	Mar. 7	R-236
Steam Turbines			
	Lubrication of Steam Turbines (IL)	June 6	R-438
Storage			
	Contribution to Conservation (Ed)	May 2	R-400
	Evaporation Losses of Aviation Gasoline in Standing Storage:		
	Part 1—Tests with Blended Aviation Gasoline	Apr. 4	R-252
	Part 2—Tests with Blending Stocks	May 2	R-373
	263-Ton Hortonsphere Built on Timber Bed, Moved 800 Ft. Intact	June 6	R-487
Sulfur Removal (See Desulfurization)			
Synthetic Ammonia			
	Chemical Utilization of Natural Gas	June 6	R-430
	Synthetic Ammonia (KU)	Feb. 7	R-132
	Synthetic Ammonia (KU)	May 2	R-366
Synthetic Fuels and Lubricants			
	Costs of Oil from Coal and Shale	Mar. 7	R-205
	Fischer-Tropsch Synthesis and the Petroleum Industry	Feb. 7	R- 97
	Hydrocarbon Synthesis from Oxygenated Organic Compounds	Apr. 4	R-302
	Synthetic Aviation and Motor Oils Seen as Future Developments	Feb. 7	R-105
	Synthine Production (KU)	Jan. 3	R- 48
	Synthine Process (KU)	Feb. 7	R-128
Synthetic Rubber			
	Chemical Utilization of Natural Gas	June 6	R-430
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	New Methods Introduced in GR-S Processing	Jan. 3	R- 3
	Synthetic Rubber, Postwar (KU)	Mar. 7	R-209
Synthine Process (see Fischer-Tropsch Process)			
Tank Bottoms			
	Tank Bottoms Seen as Source of Microcrystalline Waxes	June 6	R-460
TCC Catalytic Cracking Process			
	Quality of Distillate Fuel Oils from Houdry and TCC Operations	Mar. 7	R-165
	TCC Catalytic Cracking Process for Motor Gasoline Production, The	June 6	R-441
Tests			
	Engine Oil Foaming	May 2	R-379
	Life Testing of Lubricating Oil	Jan. 3	R- 49
	Machine for Performance Tests of Antifriction Bearing Greases, A	Jan. 3	R- 25
	New Technique for Flame Combustion Photography (Ed)	June 6	R-496
	Piston Lacquering—Its Causes and Cures	Feb. 7	R-115
	Torque-Viscosity Characteristics of Lubricating Greases	Feb. 7	R-150
	Use of Cracked Gas Oil as Burner Fuels Being Tested	Feb. 7	R-124
Toluene			
	Maximizing Output from Wartime Plants Heads Refiners' Program for 1945	Mar. 7	R-163
	Toluene by Hydroforming (KU)	Jan. 3	R- 44
U. S. Bureau of Mines Reports			
	Catalytic Desulfurization Improves Lead Susceptibility of "Sour" Distillates (R.I. 3729—Effect of Desulfurization on the Lead Susceptibility of Distillates from Some Crude Oils from Texas, New Mexico and Oklahoma)	Apr. 4	R-309
	Data on Thermal Expansion of Liquid Hydrocarbons Helpful in Field Studies (R.I. 3772—Thermal Expansion of Pressure Samples of Hydrocarbon Liquids from Gas-Condensate Wells)	Apr. 4	R-293
	Evaporation Losses of Aviation Gasoline In Standing Storage (R.I.—3701):		
	Part 1—Tests with Blended Aviation Gasoline	Apr. 4	R-252
	Part 2—Tests with Blending Stocks	May 2	R-373
	Preventing Explosive Atmospheres by Dilution with Inert Gases (R.I. 3787—Prevention of Benzene-Air Explosions by Addition of Nitrogen and Carbon Dioxide)	Mar. 7	R-236
	Products Obtainable from Natural Gas Hydrocarbons (I.C. 7108—Utilization of Natural Gas for Chemical Products)	Mar. 7	R-204
U. S. Bureau of Standards Reports			
	New Volume Correction Factors Issued for C_4 Hydrocarbons (L.C. 757)	Jan. 3	R- 31
Volume Correction Factor			
	New Volume Correction Factors Issued for C_4 Hydrocarbons	Jan. 3	R- 31
Waxes			
	Tank Bottoms Seen as Source of Microcrystalline Waxes	June 6	R-460

Author Index

Author	Title	Issue	Page
Adams, E. W.	Torque-Viscosity Characteristics of Lubricating Greases (also by E. E. Ziegler and L. C. Brunstrum)	Feb. 7	R-150
Ambrose, H. A.	Engine Oil Foaming (also by C. E. Trautman)	May 2	R-379
Anderson, D. E.	Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines (also by A. T. Colwell and R. E. Cummings)	Feb. 7	R- 88
Arnold, M. L.	Vibration in Compressor Plant Piping	Feb. 7	R-138
Barnebey, H. L.	Process Development Program	Mar. 7	R-217

(CODE: BR—book review; Ed—editorial; IL—"Industrial Lubrication"; KU—"Keeping Up With the News")

Author Index (Continued)

Author	Title	Issue	Page
Barton, Arthur C.—Inspection of Piping Systems (also by Wes Miller)		Jan. 3	R- 39
Baster. Forest S.—Possibilities of Gasoline Engine Development		May 2	R-346
Bell, Harold S.—Costs of Oil from Coal and Shale		Mar. 7	R-205
Bell, F. W.—Increasing Propane Recovery in Existing Natural Gasoline Absorption Plants		May 2	R-389
Blaylock, P. W.—Heat Transfer Equipment		Jan. 3	R- 16
Boyd, Jr., J. H.—Wealth of Hydrocarbons for Manufacturing Petrochemicals Are Available—at a Price		Apr. 4	R-246
Brown, C. L.—The Improved Fluid Process for Catalytic Cracking (also by E. J. Gohr, C. E. Jahnig, H. Z. Martin, C. W. Tyson and E. V. Murphree)		Mar. 7	R-194
Brown, Geo. Granger—Liquid Densities of Volatile Hydrocarbon Mixtures (also by George H. Hanson and Blaine B. Kuist)		Mar. 7	R-213
Brummerstedt, E. F. — Analysis of Fireproofing Methods Used in Refinery Construction		Feb. 7	R- 86
Brunstrum, L. C.—Torque-Viscosity Characteristics of Lubricating Greases (also by E. W. Adams and E. E. Ziegler)		Feb. 7	R-150
Cauley, S. P.—Quality of Distillate Fuel Oils from Houdry and T.C.C. Operations (also by S. D. Dalton)		Mar. 7	R-165
Colwell, A. T.—Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines (also by R. E. Cummings and D. E. Anderson)		Feb. 7	R- 88
Cummings, R. E.—Alcohol-Water Injection as a Detonation Depressor in Gasoline Engines (also by D. E. Anderson and A. T. Colwell)		Feb. 7	R- 88
Dalton, S. D.—Quality of Distillate Fuel Oils from Houdry and T.C.C. Operations (also by S. P. Cauley)		Mar. 7	R-165
Dotterweich, Frank H.—Science in Natural Gas (also by James E. Pew)		Jan. 3	R- 11
Dunham, G. S. — The T.C.C. Catalytic Cracking Process for Motor Gasoline Production (also by R. H. Newton and T. P. Simpson)		June 6	R-441
Eidus, Ya. T.—Hydrocarbon Synthesis from Oxygenated Organic Compounds		Apr. 4	R-302
Exline, Paul G.—A Machine for Performance Tests of Antifriction Bearing Greases (also by S. A. Flesher)		Jan. 3	R- 25
Fedoseev, P. — Condensation of Ethylene with Acetylene (also by N. Kozlov)		Mar. 7	R-224
Findlay, R. A.—Mechanical Operation of HF Alkylation Units		May 2	R-326
Flesher, S. A.—A Machine for Performance Tests of Antifriction Bearing Greases (also by Paul G. Exline)		Jan. 3	R- 25
Forbes, W. G.—Industrial Lubrication: 1. Lubrication of Steam Engine Cylinders		May 2	R-329
2. Lubrication of Steam Turbines		June 6	R-438
Gohr, E. J.—The Improved Fluid Process for Catalytic Cracking (also by C. E. Jahnig, H. Z. Martin, C. W. Tyson, E. V. Murphree and C. L. Brown)		Mar. 7	R-194
Grandone, Peter.—Evaporation Losses of Aviation Gasoline in Standing Storage: Part 1. Tests with Blended Aviation Gasoline		Apr. 4	R-252
Part 2. Tests with Blending Stocks		May 2	R-373
Hanson, George H.—Liquid Densities of Volatile Hydrocarbon Mixtures (also by Blaine B. Kuist and Geo. Granger Brown)		Mar. 7	R-213
Hummel, H. H.—Multicomponent Fractionation (A Simplified Approach to Plate-to-Plate Calculations)		Jan. 3	R- 33
Hunter, H. C.—Obstacles Seen to a Two-Fuel System for General Use on Automobiles		Apr. 4	R-249
Jacomini, V. V.—Greater Light-Ends Recovery Is Design Trend in Natural Gasoline Plant Construction		May 2	R-323
Jahnig, C. E.—The Improved Fluid Process for Catalytic Cracking (also by H. Z. Martin, C. W. Tyson, E. V. Murphree, C. L. Brown and E. J. Gohr)		Mar. 7	R-194
Khokhlovkin, M. A.—Kinetics of the Process of Thermal Polymerization of Butadiene (also by S. V. Lebedev and N. I. Kuibina)		June 6	R-466
Komarewsky, V. I.—Fischer-Tropsch Synthesis and the Petroleum Industry (also by C. H. Riesz)		Feb. 7	R- 97
Kozlov, N.—Condensation of Ethylene with Acetylene (also by P. Fedoseev)		Mar. 7	R-224
Kuibina, N. I.—Kinetics of the Process of Thermal Polymerization of Butadiene (also by S. V. Lebedev and M. A. Khokhlovkin)		June 6	R-466
Kuist, Blaine B.—Liquid Densities of Volatile Hydrocarbon Mixtures (also by Geo. Granger Brown and George H. Hanson)		Mar. 7	R-213
Lebedev, S. V.—Kinetics of the Process of Thermal Polymerization of Butadiene (also by M. A. Khokhlovkin and N. I. Kuibina)		June 6	R-466
Lekakh, M. Yu.—Polymerization of Mixtures of 1,3-Butadiene with 2-Butene and with Pentane by Sodium (also by I. V. Rokityanskii)		Feb. 7	R-133
Lemen, W. E.—Four Neighboring Refiners Install Joint Catalytic Cracking Unit (also by Paul Truesdell)		June 6	R-410
Martin, H. Z.—The Improved Fluid Process for Catalytic Cracking (also by C. W. Tyson, E. V. Murphree, C. L. Brown, E. J. Gohr and C. E. Jahnig)		Mar. 7	R-194
Mavity, Julian M.—The Production of Isoprene by Catalytic Dehydrogenation (also by Earl E. Zetterholm)		Apr. 4	R-263
McAllister, E. W.—Paloma Cycling Plant Repressures 23 Wells at 10,000-11,000 Feet		May 2	R-337
McClintock, J. H.—Program for Loss Control in Manufacturing and Handling Operation (also by R. S. Piroomov)		June 6	R-403
Mendius, Wm.—Alkylation—Backbone of Aviation Gasoline		June 6	R-407
Miller, Benjamin.—Chemical Utilization of Natural Gas		June 6	R-430
Miller, Walter.—Maximizing Output from Wartime Plants Heads Refiners' Program for 1945		Mar. 7	R-163
Miller, Wes.—Inspection of Piping Systems (also by Arthur C. Barton)		Jan. 3	R- 39
Mougey, H. C.—Life Testing of Lubricating Oil		Jan. 3	R- 49
Mougey, H. C. — Piston Lacquering — Its Causes and Cures		Feb. 7	R-115
Murphree, E. V. — The Improved Fluid Process for Catalytic Cracking (also by C. L. Brown, E. J. Gohr, C. E. Jahnig, H. Z. Martin and C. W. Tyson)		Mar. 7	R-194
Newman, W. R.—2600 b/d Fluid Catalytic Cracking Unit Proves Successful on Initial 65-Day Run		Feb. 7	R- 83
Newton, R. H. — Design and Operating Features of Houdry Units (also by H. G. Shimp)		May 2	R-335

Author Index (Continued)

Author	Title	Issue	Page
Newton, R. H.	The TCC Catalytic Cracking Process for Motor Gasoline Production (also by G. S. Dunham and T. P. Simpson)	June 6	R-441
Oberfell, G. G.	Progress of the LPG Industry During 1944 (also by R. W. Thomas)	Feb. 7	R-108
Pew, James E.	Science in Natural Gas (also by Frank H. Dotterweich)	Jan. 3	R- 11
Piroomov, R. S.	Program for Loss Control in Manufacturing and Handling Operations (also by J. H. McClintock)	June 6	R-403
Rendel, T. B.	Postwar Internal Combustion Engines and Their Fuels	Jan. 3	R- 66
Reuter, Raymond.	The Use of Chemicals by the Petroleum Industry	Jan. 3	R- 76
Riesz, C. H.	Fischer-Tropsch Synthesis and the Petroleum Industry (also by V. I. Komarewsky)	Feb. 7	R- 97
Rokityanskii, I. V.	Polymerization of Mixtures of 1,3-Butadiene with 2-Butene and with Pentane by Sodium (also by M. Yu. Lekakh)	Feb. 7	R-133
Shimp, H. G.	Design and Operating Features of Houdry Units (also by R. H. Newton)	May 2	R-333
Simpson, T. P.	The T.C.C. Catalytic Cracking Process for Motor Gasoline Production (also by R. H. Newton and G. S. Dunham)	June 6	R-441
Stein, Paul J.	Cooling Water and Effluent Treatment in Butadiene Manufacturing	Apr. 4	R-273
Stossel, Ernest.	Tank Bottoms Seen as Source of Microcrystalline Waxes	June 6	R-460
Test, L. J.	Water Injection Alone Suppressed Detonation But Excessive Engine Rusting Was Found	Apr. 4	R-250
Thomas, R. W.	Progress of the LPG Industry During 1944 (also G. G. Oberfell)	Feb. 7	R-108
Thompson, Paul K.	Wartime Trend of LP-Gas Industry	Mar. 7	R-226
Thornton, Jr., D. P.	New Volume Correction Factors Issued for C_4 Hydrocarbons	Jan. 3	R- 31
Thornton, Jr., D. P.	Baytown—Processes 200,000 Bbls. of Crude a Day	Mar. 7	R-177
Thornton, Jr., D. P.	War's End Will Not Terminate Shortage of Scientific Manpower for Oil Companies	May 2	R-367
Trautman, C. E.	Engine Oil Foaming (also by H. A. Ambrose)	May 2	R-379
Truesdell, Paul	Four Neighboring Refiners Install Joint Catalytic Cracking Unit (also by W. E. Lemen)	June 6	R-410
Tyson, C. W.	The Improved Fluid Process for Catalytic Cracking (also by E. V. Murphree, C. L. Brown, E. J. Gahr, C. E. Jahnig and H. Z. Martin)	Mar. 7	R-194
Verity, P. S.	Precise Fractionation in the Petroleum Industry	Mar. 7	R-169
Wright, W. Andrew.	Survey of Past and Present Trends in Lubricating Oil Additives	Jan. 3	R- 34
Zetterholm, Earl E.	The Production of Isoprene by Catalytic Dehydrogenation (also by Julian M. Mavity)	Apr. 4	R-263
Ziegler, E. E.	Torque-Viscosity Characteristics of Lubricating Greases (also by L. C. Brunstrum and E. W. Adams)	Feb. 7	R-150

ADVERTISERS' INDEX

Alco Products Division	R-481
Alcorn Combustion Co.	R-488
Aluminum Ore Co.	R-489
American Cyanamid & Chemical Corp.	R-457
American Meter Co.	R-473
Attapulgus Clay Co.	R-429
Badger & Sons Co., E. B.	R-448—R-449
Babcock & Wilcox Tube Co.	R-459
Beaird Co., J. B.	R-468
Bechtel-McCone Corp.	R-427
Clark Bros. Co., Inc.	R-419
Consolidated Engineering Corp.	R-435
Cooper-Bessemer Corp.	R-439
Dow Chemical Co.	R-461
Edward Valve & Mfg. Co., Inc.	R-421
Ethyl Corp.	R-402
Foster Wheeler Corp.	Insert
Foxboro Co.	R-465
General Chemical Co.	Inside Back Cover
Graver Tank & Mfg. Co., Inc.	R-425
Hammond Iron Works	R-437
Houdry Process Corp.	R-445
Hudson Engineering Corp.	Inside Front Cover
Johns-Manville Corp.	R-471
Jones & Laughlin Supply Co.	R-476—R-477
Lummus Co.	Insert
McKee & Co., Arthur G.	R-413
Metasap Chemical Co.	R-495
Monsanto Chemical Co.	R-431
National Petroleum News	R-485
Nooter Boiler Works Co., John	R-451
Petroleum Engineering, Inc.	R-422—R-423
Porocel Corp.	R-443
Powell Co., Wm.	R-467
Solvay Sales Corp.	R-455
Stratford Engineering Corp.	R-483
Texaco Development Corp.	R-463
Union Asbestos & Rubber Co.	R-479
Universal Oil Products Co.	R-415
Warren Petroleum Corp.	R-453
Wyatt Metal & Boiler Works	Outside Back Cover
Zink Burner Co., John	R-475

Metasap creates better Stearates today
for tomorrow's
BETTER LUBRICANTS
New and better Metasap Stearates are now being developed, to meet the demands for higher film strength and greater uniformity in modern chassis and general automotive lubricants. Metasap technicians can also aid grease manufacturers in the development of more effective and more economical lubricants for the machines of industry.
METASAP CHEMICAL COMPANY
CHICAGO • CEDARTOWN, GA. • HARRISON, N. J. • BOSTON • RICHMOND, CAL.